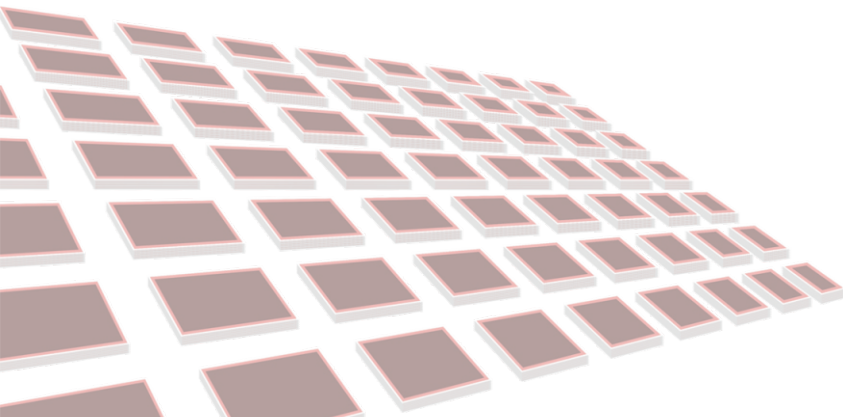# User Manual
# of Joystick Controller

Feature

Optical 3D joystick gives you a more comfortable roll / pan/ zoom operation.

Camera control for camera menu operation

Use the unit button, you can quickly adjust the camera for a variety of automatic focusing, for example: a series of automatic focus adjustment, AE adjustment, a series of automatic white balance adjustment and brightness adjustment aperture.

VISCA protocol can be used to control up to 5 cameras, eliminating the need for a traditional keyboard control a cascade of trouble. And the camera can only be completed once the key switch, convenient and quick.

PTZ and lens control speed can be adjusted through the control knob

Each camera has 10 track memory

Video conference system control unit

The frontboard
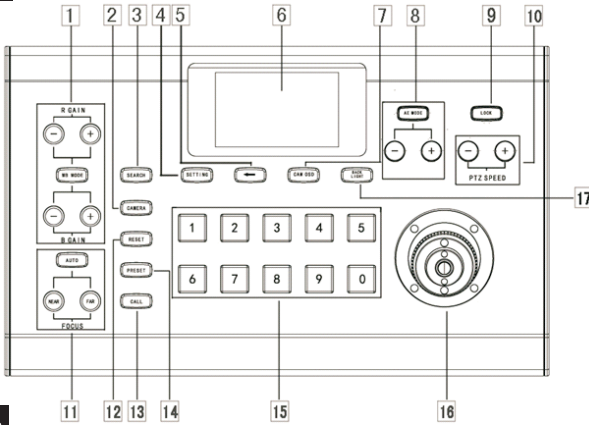
Button fuction

1、White balance adjustment
   "WBC MODE" auto white balance mode selection
   "+B GAIN-" blue gain or less.
   "+R GAIN-" red gain or less.
2、Camera selection
   "Number" + "CAMERA" select camera
3、"SEARCH"
   Search for connected devices when the protocol is VISCA or VISCA OVER IP
4、"SETTING" Call controller menu
5、"←" Menu return
6、Keyboard Display
7、"OSD" Camera manual setting
8、"AE MODE" Auto Exposure Select
   "AE Shutter Priority" "+"、"-", adjust camera brightness.
   "AE Iris Priority" "+"、"-", adjust camera aperture.
   "AE Full Auto" "+"、"-" One-button trigger the brightness manually
9、"LOCK" Keyboard knob lock
10、"PAN-TILT SPEED" adjust the pan/tilt control speed of camera
11、Focus mode selection
   "AUTO" auto focus
   "NEAR" manual focus mode close up
   "FAR" Manual focus mode far focus
12、Delete preset
   "Number" + "RESET" delete the preset
13、Call preset
   "Number" + "CALL" call the preset
14、Set preset
   "Number" + "PRESET" set the preset
15、Numbers "1" to "0"
16、Control joystick
   Joystick used to tilt the camera pan tilt and lens focus of the operation,
select the camera you want to control the joystick to achieve control.
   Translation and pitch
The left and right direction of the joystick is translation, up and down is the
pitch, when you release remote sensing, the camera will stop action.
   Focal Length
When you turn the knob clockwise, the field of view will become larger (zoom),
or vice versa (zoom).
17、"BACK LIGHT" Backlight Compensation

-2-

Backside
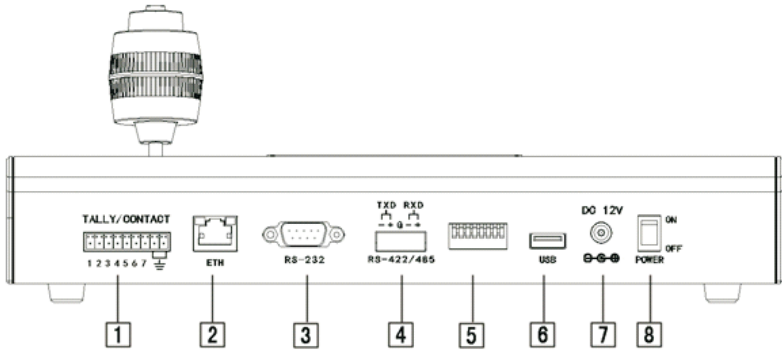
Interface introduction

1、TALLY port

2、Ethernet port

3、RS232 control

4、RS422/485 control

5、Dial switch area

6、USB port

7、12V DC power supply

8、Power switch

Switch Introduction

DIP switch	Control selection	DIP switch	Control selection
1	NC	5	NC
ON	NC	ON	NC
OFF	NC	OFF	NC
2	NC	6	NC
ON	NC	ON	NC
OFF	NC	OFF	NC
3	NC	7	NC
ON	NC	ON	NC
OFF	NC	OFF	NC
4	NC	8	Upgrade mode
ON	NC	ON	ON
OFF	NC	OFF	OFF

OSD menu setting

Enter the keyboard settings menu:

  1) Press the MENU key, light is on.

  2) Default password is off (Factory setting)

Enter the menu, control the joystick up and down to switch the setting items. Control to the right, means confirmation. To the left, return to the previous level, or return by pressing "←". Keyboard menu settings are as follows:

```
              SETTING
1. Select Protocol          >
2. Protocol setting         >
3. Serial Port              >
4. Rocker                   >
5. Buzzer                 OFF>
6. Sleep Time          Minute>
7. Language           English>
8. About Device             >
9. Reset Device             >
```
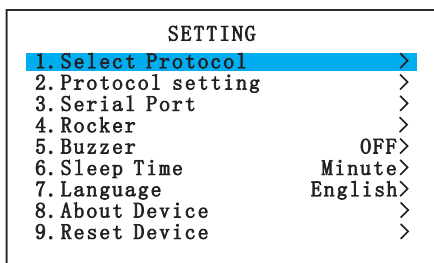
NO.1:Camera protocol selecting

  Method:
  Use the joystick to move the cursor to "Select Protocol", move the joystick to the right to enter next menu. Select the protocol by the joystick up and down and confirm the selection to the right. The selected item will be marked with a hook.

 The following picture: indicates the selected protocol is VISCA Over IP.

```
           Select Protocol
1. VISCA Over IP             √
2. VISCA
3. PELCO D
4. PELCO P
```
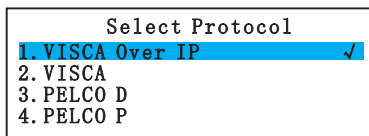
NO.2:Protocol setting

  Method:
  Use the joystick to move the cursor to "Protocol setting", move the joystick to the right to enter next menu. Select the protocol by the joystick up and down and confirm the protocol to the right.

The following picture: indicates the selected protocol is VISCA Over IP.

```
           Protocol Setting
1. Visca Over IP            >
2. VISCA                    >
3. PELCO D                  >
4. PELCO P                  >
```
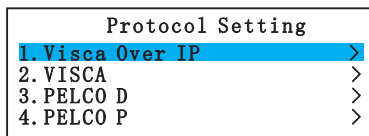
Use the joystick to move the cursor to "VISCA Over IP" to the right and enter next menu. Selects the compatible camera manufacturer under the corresponding protocol, manages the discovered IP and sets new IP address; the flow chart is as follows:

```
        Visca Over IP
 1. Compatible Mode        SONY〉
 2. Manage Custom Address       〉
 3. Add New Custom Address      〉
```

No3: Serial port setting

Methods:

Use the joystick to move the cursor to "Serial port" item, and move the joy--stick to the right to enter next menu. Selects whether to enable instruction repeater function and set the mode, and then enters the editing interface again to the right. The flow chart is as follows:

The following picture: indicates the selected baud rate is 9600.

```
          Serial Port
 1. RS232/USB Baud Rate     9600〉
 2. RS422/485 Baud Rate     9600〉
 3. Instruction Repeater     OFF〉
```

Switch different baud rates, and switch the value up and down (2400-115200). After selecting, save the parameter to the right and exit;

Note: If you need to use the instruction repeater function, you need to make "Instruction Repeater" "ON" first.

No4: Pan reverse & Tilt reverse setting

Methods:

Use the joystick to move the cursor to "Rocker" item, and move the joystick to the right to enter next menu. The joystick up and down selects pan reverse & tilt reverse setting. Use OFF or ON for selecting. The flow chart is as follows:

```
            Rocker
 1. PAN Reverse          OFF〉
 2. Tilt Reverse         OFF〉
```
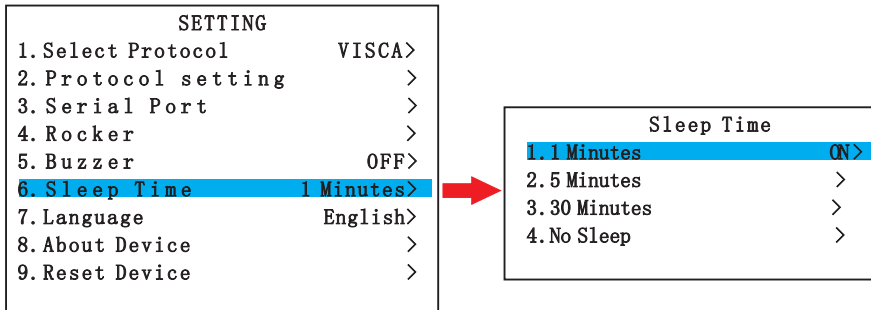
No5: Buzzer

Methods:
Use the joystick to move the cursor to "Buzzer" item, move the joystick to the right, and select the button buzzer switch (OFF/ ON). The picture below shows the button beep switch is off.

```
               SETTING
1.Select Protocol        VISCA>
2.P r o t o c o l  s e t t i n g      >
3.S e r i a l  P o r t               >
4.R o c k e r                        >
5.B u z z e r                    OFF>
6.S l e e p  T i m e        1 Minute>
7.Language              English>
8.About Device                   >
9.Reset DEvice                   >
```

No6: Time setting of LCD screen

Methods:

Use the joystick to move the cursor to "Sleep Time" item, move to the right to enter next menu. Then choose the sleep time or "no sleep", The flow chart is as follows:

```
               SETTING                              Sleep Time
1.Select Protocol        VISCA>          1.1 Minutes              ON>
2.P r o t o c o l  s e t t i n g      >  2.5 Minutes               >
3.S e r i a l  P o r t               >  3.30 Minutes              >
4.R o c k e r                        >  4.No Sleep                >
5.B u z z e r                    OFF>
6.S l e e p  T i m e       1 Minutes>
7.Language              English>
8.About Device                   >
9.Reset Device                   >
```

No7: Language

Methods:

Use the joystick to move the cursor to "Language", move to the right to choose language.

The flow chart is as follows:

```
          SETTING
1. Select Protocol      VISCA>
2. Protocol setting        >
3. Serial Port             >
4. Rocker                  >
5. Buzzer               OFF>
6. Sleep Time    1 Minutes>
7. Language        English>
8. About Device            >
9. Reset Device            >
```

```
          Language
1. English                √
```

No8: About Device

Methods:
Use the joystick to move the cursor to "About Device", move the joystick to the right to enter next menu. Then check the version and release time. The flow chart is as follows:

```
          SETTING
1. Select Protocol      VISCA>
2. Protocol setting        >
3. Serial Port             >
4. Rocker                  >
5. Buzzer               OFF>
6. Sleep Time    1 Minutes>
7. Language        English>
8. About Device            >
9. Reset Device            >
```

```
        About Device
1. Software Version: v0.1.0
2. Compile Date: Sep. 20. 2018
```

No9: Reset Device

Methods:

Use the joystick to move the cursor to "Reset Device", move the joystick to the right to enter next menu. Then check the version and release time. The flow chart is as follows:

```
          SETTING
1. Select Protocol      VISCA>
2. Protocol setting        >
3. Serial Port             >
4. Rocker                  >
5. Buzzer               OFF>
6. Sleep Time    1 Minutes>
7. Language        English>
8. About Device            >
9. Reset Device            >
```

```
        Reset Device
1. NO                     √
2. YES
```

Installation before using

1.Power adapter installation

This equipment comes with a 12V DC power supply, insert the power supply , turn
on the power switch, and the LCD screen is displayed:

Display area introduction

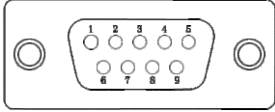| 1. Current control protocol and device display area |
| --- |
| 1. Connection status display area |
| 2. Current operation data display area |
| 3. Operation record area |

2.Connect the camera

If the camera supports ip VISCA control, can be connected by a network cable and
supports LAN connection control;

If the camera is far from the keyboard (over 20 meters), use RS422/485 connection.
If the camera is close to the keyboard (less than 20 meters), use RS232 connection.

The machine provides a 1m RS232 (DB9 to round head 8-pin) connecting cable. If
the length of standard wire is not enough, cut it and add the appropriate length
of the three-core cable (Note: do not wiring wrong, make welding to ensure good
contact). Plug the cable into the COM port of the keyboard and insert the RS232IN
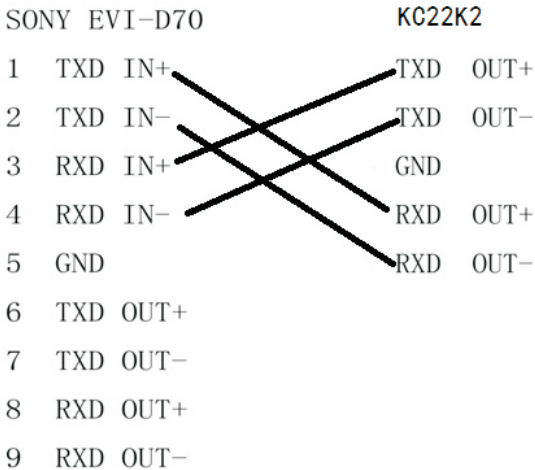into the camera.

The definition diagram and wire diagram of DB9 pin are as follows:

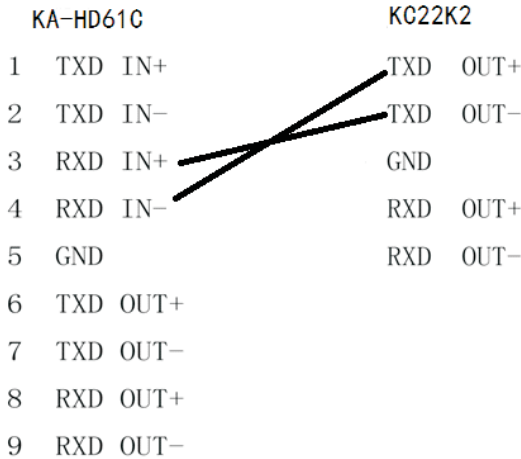| Diagram	Function
	1、
	2、RS232 RX
	3、RS232 TX
	4、TALLY1
	5、PGND
	6、TALLY2
	7、TALLY3
	8、TALLY4
	9、TALLY5

If the distance is over 20 meters, use 422/485 connection.
Below figure is SONY EVI-D70 camera and KT-610C(KC22K2) RS422 wiring diagram:

SONY EVI-D70   KC22K2
1 TXD IN+   TXD OUT+
2 TXD IN-   TXD OUT-
3 RXD IN+   GND
4 RXD IN-   RXD OUT+
5 GND   RXD OUT-
6 TXD OUT+
7 TXD OUT-
8 RXD OUT+
9 RXD OUT-

Below figure is KATO camera KT-HD61C and KT-610C(KC22K2) RS485 connection:

Instructions

1. Power on

Plug in the keyboard power supply, monitor display

Power on, the default network IP control camera: Press the "Search" button on the panel, the control keyboard will search for all IP cameras which connected to the LAN that support the VISCA Over IP protocol. Press the "Camera" button and move the joystick up and down to select the corresponding IP Camera.
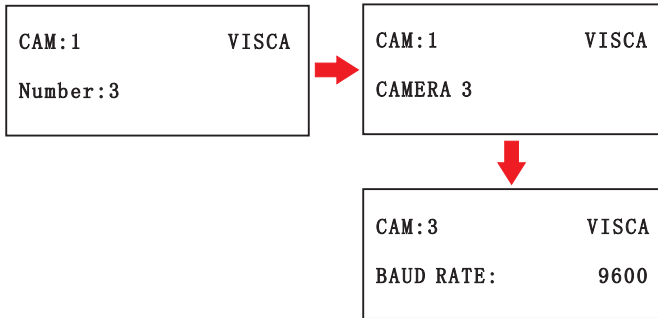
Rotate the joystick right to enter the operation interface of the camera con--trolling

Of course, non-LAN IP control is also workable. For example,the conference camera is directly connected to the keyboard controller by RS232 and RS485/RS422 cables, setting corresponding protocol, baud rate and camera ID.

2. Select the camera ID

Press "Number" + "CAMERA" to select the camera ID. (Up to 7 camera ID can be selected when using VISCA protocol and up to 255 camera ID when using PELCO P/D protocol).

For example: to select "Camera 3" ,when using VISCA protocol, first press the number key "3", Then press "CAMERA" key, the keyboard screen display changes as follows: and after setting, all operations are performed on this camera.

```
CAM:1           VISCA          CAM:1            VISCA

Number:3                       CAMERA  3
```

```
CAM:3            VISCA

BAUD RATE:        9600
```

3. Joystick operation

The joystick is the control part for quick rotation of the camera and its lens. It supports left and right, up and down control functions. The joystick left- -wards and rightwards, the PTZ camera pan left and right, the joystick up and down. the camera rotate up and down.

Speed of PTZ rotation can be adjusted by the "+" , "-" of "PAN-TILT SPEED" area. The speed range from 1-7. Rotate the joystick to control the camera lens zoom in and out, and see the far view and close view. The Rotate joystick speed is fixed, can not be adjusted.

4. Preset setting

The preset position is the operation of pointing the camera lens at the confe- rence speaker location in advance. After setting the preset position, when the man callS the preset number, the camera will turn to object location quickly.

"Number + PRESET" to Set the preset position, up to 255 presets can be set if the camera support. Operation as follows:

First, rotate the joystick to focus on the first object position. For example, press the number "1" + "PRESET" to complete preset No.1 setting. Rotate the joystick again to focus the second object, setting the different numbers in sequence, pay attention that operator should remember the location and number of the speaker.

When the presets position exceed single digits, such as the No.255 preset pos- -ition, the operation is as follows:

Press the number keys "2", "5", "5" in turn, the keyboard displays the number "255", and then press "PRESET" to complete the setting of position 255.

5. Call preset

Press "Number Key+ CALL" to call the preset position, the operation is same as the preset settings.

6. Delete preset

Press "Number key + RESET" to delete the preset position, the operation is same as the preset settings.

7. Exposure mode selection

Press "AE AUTO" button to switch exposure mode. There are three modes can be switched ("AE Iris Priority" / "AE Shutter Priority" / "AE Full Auto").
Switch to "AE Iris Priority", press "+"、 "-", can adjust the aperture of camera.
Switch to "AE Shutter Priority", press "+"、 "-", can adjust the shutter speed of camera.
Switch to "AE Full Auto", press "+"、 "-" One-button trigger the brightness manual compensation.

8. White balance mode selection

Press the "WBC MODE" button to switch white balance modes ("WBC AUTO", "INDOOR", "OUTDOOR", "ONE PUSH", "ATW", "OUT AUTO", "MANUAL").

In the "B GAIN" area, Press the "+" and "-" buttons to trigger manual white balance mode, which can adjust the blue shade, "+" blue to darken, and "-" blue to lighter;

In the "R GAIN" area, Press the "+" and "-" buttons to trigger the manual white balance mode, can adjust the red shade, "+" red becomes darker, and "-" red becomes lighter.

9. The camera menu call

Press the "CAMERA OSD" button for 2 seconds to call the camera menu. Rotate the joystick up and down to switch the item, move the joystick right to confirm, left to return, exit menu can save the modify project.

10. Camera pan-tilt speed adjustment

In "PAN-TILT SPEED" area press "+"、 "-" can adjust camera pan-tilt speed, 7 speed levels can be adjusted.

11. Manual focus, automatic focus

Press "NEAR" "FAR" can trigger manual focus, "NEAR" adjust camera lens to get closer, "FAR" adjust camera lens to get far focus.

Press "AUTO" can trigger auto focus.

12. Keyboard lock

Press the "LOCK" button to trigger the keyboard lock function, "LOCK" light up, all function keys on the keyboard are restricted.
Press "LOCK" again to close the keyboard lock.

13. Backlight compensation

Press "BACK LIGHT" button to trigger backlight compensation. Press "BACK LIGHT" again to close.